

VIRGINIA WILDLIFE

JUNE 2011

FOUR DOLLARS



Second Chance for Mussels • Northern Snakeheads • Duck Hunter's Dream

JUN



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BOB DUNCAN
Executive Director



Yes, Virginia, we've gone to the dogs!" And gladly so. I'm referring to our new K9 unit, an addition to the DGIF family that we are most excited about!

According to Colonel Watts, who leads our Law Enforcement Division, at the urging of one of our Conservation Police Officers we looked into the feasibility of establishing a K9 unit to assist officers in the field. This spring, after completion of an intensive training program in Indiana, I'm pleased to report that three young 'graduates' and their handlers have come home to Virginia.

Wildlife-trained K9 teams differ from other K9 teams in a number of important ways, among them:

- The dogs are sporting breeds, and in our case, Labs.
- The dogs focus on wildlife-related activity and are specifically trained to track, to recover articles, and to detect wildlife.

In other ways, however, these dogs share much in common with all K9 units involved in law enforcement activities. They form incredible bonds with their handlers and they behave with utmost discipline.

Our Conservation Police Officers (CPOs) are held in the highest regard across the state and across the nation. But there are limits to what the human body can physically accomplish. There are limits to what the nose can smell and the eyes, see. The addition of these three Labrador retrievers—Jake, Justice, and Scout—will extend the reach of our officers conducting investigations into accidents and wildlife crimes, or performing search and rescue. I view this new K9 team as a "force multiplier" within our agency.

Responding to the commands of CPO handlers Megan Vick, Richard Howald, and Wayne Billheimer, the dogs conduct fieldwork efficiently and quickly. We have already witnessed several incidents where their contribution was immediately apparent and invaluable. Stay tuned for more information about these dogs and their talented handlers in an upcoming feature of this magazine, as we look forward to sharing their successes with you.

Yes, this is good news for a wildlife agency that turns 95 years old this month. We've been in the business of wildlife protection long enough to have witnessed many clever maneuvers by poachers and other law breakers in their attempts to outsmart us. We think we may have just leveled the proverbial playing field a bit—certainly I've met three Labs that would agree.

Who says you can't teach a new dog old tricks?



(L to R) Justice and CPO Billheimer, Scout and CPO Howald, Jake and CPO Vick.

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Offering a
*Second
Chance*

With little fanfare and a spirit of cooperation, biologists reintroduce endangered mussels to the rivers of Southwest.

by Gail Brown

Snowshoe hare? Sure. Shortnose sturgeon? Of course. Red cockaded woodpecker? Virginia big-eared bat? Green sea turtle? Yes. Yes. Absolutely! But the birdwing pearlymussel? The purple bean? Tan riffleshells? The oyster-mussel and cracking pearlymussel? What are the chances freshwater mussels, so benign and sedentary, would become the center of turmoil and controversy? Who could have predicted the value of the Tennessee heel-splitter, or estimated the loss of the Ohio pig-toe?

What happened to these beautiful creatures and to the rivers of Virginia's upper

Tennessee River Basin is tragic. What is happening today to protect and restore these treasures is inspiring. And at the heart of it all remains a simple, one-footed creature that lives inside two hinged shells; an animal in possession of an incurrent and excurrent siphon capable of filtering over a gallon of water an hour; a bivalve so content it will sit for 50 to 100 years in the hope that food, and for some, sex, might chance to float their way. Chancy indeed, considering all the complex events that must take place at a particular time, and in a particular order, for mussels to reproduce. Yet at one time mussels were plentiful. Lining the waterways of southwestern Virginia like cobbles on the yellow brick road, they appeared to go on forever. Not any more.

Before dams were constructed, before industrial waste spilled into the rivers, before pollution invaded our waterways, and long before the exotic zebra mussel overwhelmed native mussels like the threeridge and pink mucket, the United States was blessed with almost 300 species of healthy freshwater mussels. The significance of that number, 300, becomes apparent when considering the

fact that there are only 1,000 species worldwide. In all of Africa, only 96 species exist; across all of China, only 60; and in all the countries of Europe only 12 species can be found. How amazing, then, that Virginia has 81 species, with over 45 documented in the upper reaches of the Powell, Clinch, and Holston rivers. Of those 45 species, several are found solely in Virginia. In centuries past these riverbeds must have sparkled as no other, for mussels are not only indicators of clean, healthy waterways, but serve as filters that continually clean up after other organisms, algae, and bacteria. And they can do this for decades as long as their environment is not too greatly disturbed.

But things were disturbed, horribly so, resulting in over 7 percent of the freshwater mussels in the United States becoming extinct and over 70 percent listed as at risk. Of the species remaining, 50 percent are protected by the United States Endangered Species Act. Numbers can hurt. Numbers like the 5.8 million gallons of coal waste slurry that seeped into the North Fork Powell River in 1996, settling over federally listed fish and mussels and contaminating everything for 50

©Dwight Dyke



Birdwing pearlymussel (*Lemiox rimosus*)



Purple bean (*Villosa perpurpurea*)

miles. Or numbers like 130 million gallons of ash slurry that flowed into the Clinch River in 1967, killing over 200,000 fish and an untold number of mussels in just 4 days! Almost 90 miles of the river were impacted as the poison seeped through southwestern Virginia and on into Tennessee. While the Clinch struggled to recover, the sulfuric acid spill of 1970 slammed into its fragile ecosystem, severely impacting the river's rare and already endangered mussel population, which, since they are much slower to reproduce than other aquatic life forms, was still vulnerable when this new disaster struck.

Numbers told the tale again when, in 1998, 1,350 gallons of a rubber accelerator spilled into a tributary of the Clinch following a tanker truck accident. An estimated 18,000 mussels, including 750 endangered freshwater mussels (of three different species) as well as fish, snails, and other aquatic organisms were destroyed. It was a terrible day, one that

Here, juveniles 15mm and larger are kept in this upweller system. A mesh screen allows ambient pond water to provide a natural food source. Below, the Clinch River.





Water is constantly circulated through pans of sediment to simulate stream conditions. Temperature and food supply are controlled.

would be recorded as the date of the largest endangered species kill-off in the United States since the Endangered Species Act of 1973 came to life. The result? While the upper Tennessee drainage system of Virginia claims 102 species—over one-third of the entire fauna of freshwater mussels in the United States—Virginians can lament the fact that when the area is compared to watersheds of similar sizes, the Clinch holds an unfortunate first place for having the greatest number of at-risk fish and mussels and the Powell, the equally unfortunate third.

Yet unlike other areas where no mussels remain, these rivers still have a viable mussel population: In the end, in Virginia, both mussels and opportunity made it through. Factor in opportunity and a very different equation surfaces. Recognizing this, in 1998, with the goal of propagating and protecting the commonwealth's mussels and educating all citizens about their value, the Department established the Aquatic Wildlife Conservation Center (AWCC) within the Buller Fish Cultural Station, just outside of Marion.

There, through the work of Aquatic Resource Project Manager Michael J. Pinder and biologists Amanda Duncan, Joseph Ferraro, and Jonathan Orr, the chances that some species can be replenished are steadily being realized. Because of the complexity of propagating these species even in controlled situations, however, nothing is guaranteed. While mussels have a long life span, their ability to reproduce in large numbers in the wild is now risky at best.

Under optimal conditions, the process happens as follows: The male releases sperm which float downstream to waiting females. The female mussels take in the sperm through their incurrent siphon. Anywhere from hundreds to thousands of fertilized eggs should develop into glochidia (larvae) within the gills of the mussel. Within two weeks to two months, depending on the species, the glochidia will drop into the water and attach themselves to a fish. This is a very chancy stage, as only certain fish can serve as host fish for each species of mussel for development to continue. Should the correct fish

become implanted, the glochidia encyst into the tissue of the fish where they will continue to grow and develop into complete organisms. Once developed, the glochidia drop from the host fish, burrow into the substrate as juveniles, and continue to grow, hopefully to become healthy adult mussels.

While each stage of development in the wild is fraught with chance, at AWCC each step is carefully controlled and monitored. At the beginning of the process, the glochidia are collected and studied under a microscope to make sure the larvae are ready before being implanted into the right host



All juvenile mussels must be counted.



Duncan checks the health, survival, and growth rate of new juvenile mussels.



(L to R) Ferraro, Duncan, and Pinder were all smiles last fall when over 3,500 federally endangered mussels raised at AWCC were released into the Clinch River.

Lee Walker

fish for the correct mussel species. Care is taken so that the host fish remain healthy and are not overly infested. Once juvenile mussels drop from the host fish they are removed and placed in holding tanks, and the detailed, often tedious job of counting the juveniles begins—no easy task since the animals are smaller than a grain of salt! Those same mussels must be counted again 28 days later and again and again before being released into the wild. From 2003 to 2010, over 4,101,481 freshwater mussels from 25 different species were raised. During that same time period, 675,462 mussels of 20 different species were released into the Clinch and Powell rivers. That's a lot of counting and a lot of transplanting!

Very impressive. But how is it possible? Mussel Propagation Specialist Joseph J. Ferraro believes he knows the answer. He says it's the staff's ability to get along and work together that has made the difference. Ferraro includes the staff at Buller Fish Station in this assessment as well. "They work closely with us to help us. I can tell you that's not always the case in other centers. But that's what people

do in this area—they help their neighbors out." That's true. It's also true that through hard times, long days, and cold nights, neither those tough mussels nor those determined biologists thought to cry "uncle." No doubt typical of the area as well.

Pinder, who has been at the center since it opened, recalls, "When we first began, we struggled to produce even a few mussels that were large enough to release. Times have changed. In September of 2010 we released 3,500 federally endangered mussels representing two different species we raised here at the center. It was the biggest single release of larger sized, endangered freshwater mussels in the eastern United States." Virginia can be proud of that effort. We can all take comfort in those numbers.

Still, there is more work to do as increasing the number of mussels restored to our rivers is only part of the equation. Educating others about the history and value of freshwater mussels is of equal importance if these animals are to have a fighting chance to make a comeback. "Education is an important part of our job," states AWCC biologist Amanda

Duncan. "We continually host school groups, from elementary to college level, and attend community outreach programs, such as Kids in the Creek Days, watershed festivals, and numerous outdoor events to help get the word out. We have people visiting the area as well as residents who stop by, and we always take the opportunity to educate them before they leave. They always have questions." One answer was easy: "No, they are not for eating!"

Because of the diligence of people like Pinder, Duncan, Ferraro, and Orr, there is a good chance things could turn around and we might keep these natural treasures we are so fortunate to have. No one expects to see the numbers we had centuries ago, but certainly we can move forward from where we were decades ago. So for now, the team continues to go about their work and watch the numbers. In time, their diligence and patience may earn us something we don't often get: a second chance. A lot can change, given a second chance. 

Gail Brown is a retired teacher and school administrator.



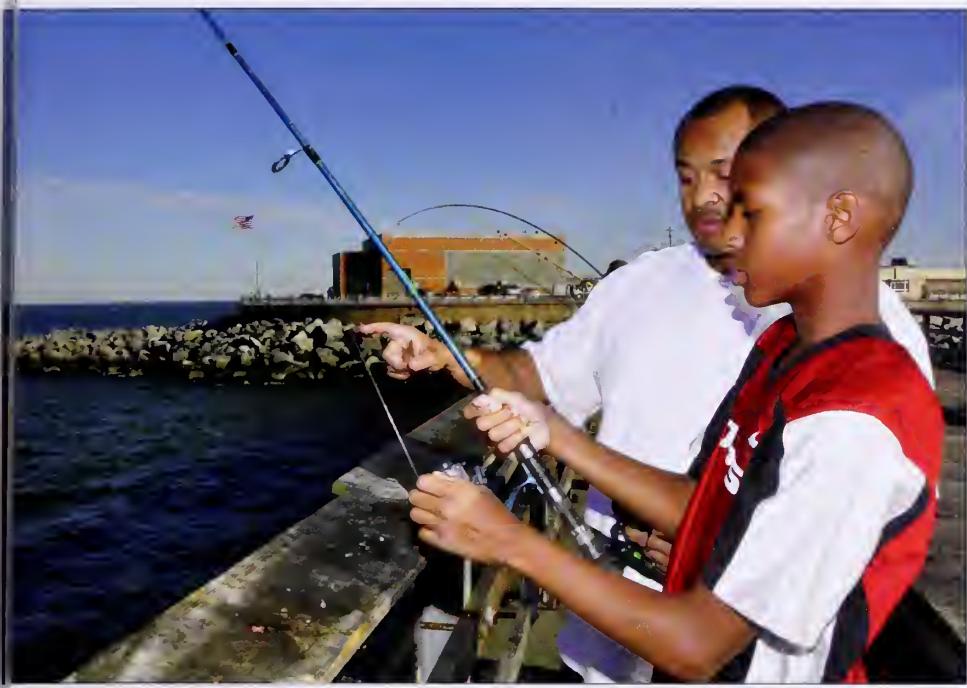
I Love

story & photos
by Emily M. Grey

Imagine yourself and your family as resident immigrants in a foreign land. You cannot yet speak the language or understand the local customs. You and your family enjoy fishing, though you do so primarily for subsistence. It will take time to become acclimated and learn local and state regulations. In your homeland, fishing laws were nonexistent or not enforced. How do you want to be treated, especially if you unintentionally break the law?

Understanding each other's language, of course, can be challenging to multicultural anglers and conservation police officers. And body language sends a powerful message that can allay or further complicate a situation. Everyone picks up on a smile or a frown.

Mexican-born tomato field worker Francisco Sanchez and his 10-year-old son Edgar love to fish. Last summer a wonderful day turned south at Guard Shore, a popular bayside spot in Accomack County on the Eastern Shore. A local law enforcement officer detained Sanchez, labeling his picture



Left, Tony Anthony of the Shinnecock Indian Nation gives casting pointers.

Fishing!

identification card issued by the Consulate of Mexico as “questionable”—which resulted in the issuance of a citation and a trip to court. Upon examining the defendant’s passport and phoning the Mexican Consulate, the judge eventually dismissed the case. After this harrowing episode, Sanchez says that he has reservations about going fishing again.

“People are working to try to make a better life for themselves and their families,” says retired conservation police officer (CPO) Bruce Lemmert about Hispanics. “They are looking for something to do and a place to go. They don’t have a lot of money. Fishing is recreation and provides food to cook. Some people are really struggling. They open their wallets and show their green card and five or ten dollars, their whole worldly possessions.

“With a lot of resident fishermen, there is a resentment factor, especially when Hispanics use nets as they do in their home country,” he continues. “Some local people report Hispanic fishermen who are using a pole as not having a license when they actually do.”

Good Samaritans like Joe McKnight, pastor of Hollies Baptist Church in Kellar, have reached out to the Hispanic community.



Above, Chris proudly shows the sunfish he caught at Burke Lake. On page 10, a family prepares to go crabbing at Guard Shore, a popular beach on the bayside.

Laptops, software, and a rent-free parsonage are among his church’s gifts to local Hispanic missions. Every July, his church holds a fishing day when anglers harvest croaker, trout, and other bay bounty and fry them to perfection for a hungry crowd. In his free time, Pastor Joe takes Hispanics fishing aboard his boat.

“I like taking people out and watching them catch fish for the first time,” McKnight explains. “I enjoy how they appreciate the Eastern Shore and seeing nature through their eyes. The Hispanic culture has done far more for me than I could ever do for them.”

Law Enforcement Perspective

Previously assigned to the district of Loudoun, Fairfax, and Prince William counties, former CPO Bruce Lemmert has frequently witnessed people of different cultures sport fishing in Northern Virginia. On warm weather weekends, the shores of Burke Lake in Fairfax County resemble a meeting of the United Nations, with families of Middle Eastern, Southeast Asian, and other descent casting lines along the bank. But because an ethnic count is not taken, it is impossible to know how many nationalities purchase Virginia fishing licenses annually.

“The Hispanic community is from all over: South America, Mexico, and Central America. It’s an ongoing process of new people coming in,” Lemmert acknowledges. “As with anything new, officers are feeling their way along, enforcing the law, and trying to educate.

“For the most part, people do not want to be in trouble and show respect,” he continues about Hispanics. “They come to court when issued a citation and want to pay their fines. They are trying to comply and accommodate to our unique system of rules, regulations, and licenses, which can be complex.”

“Interacting with Hispanics and dealing with fishing from a law enforcement perspective is a challenge,” agrees CPO Sgt. Steve Garvis, based on Virginia’s Eastern Shore. “First, there’s the language barrier. Very few speak English, which makes field contacts very difficult. Often, Department (DGIF)



Left, now-retired CPO Bruce Lemmert examines Ramon Gomez's fishing license.

Related Demographics and Trends

Hispanics are officially our nation's largest minority group. Comprising 15 percent of the U.S. population, they represent 7 percent of the commonwealth's approximately 8 million residents.

Hispanic migrant workers are essential to the Eastern Shore's agriculture industry. They account for a respective 10 and 7 percent of Accomack and Northampton counties' population; as such, Hispanics are the area's most readily visible ethnic group.

The "Special Report on Fishing and Boating" conducted by the Recreational Boating and Fishing Foundation and the Outdoor Foundation provides detailed information on participation by ethnicity, gender, age, education, income, and geographic region. Among the key findings is that in 2008 Hispanic participants made more than 45.8 million annual outings. Hispanic youth aged 6 to 12 have the highest participation among all age groups (19.5%) followed by ages 13 to 17 (16.4%). The most prevalent barrier to this recreation cited by Hispanics is lack of time (53.3%) followed by a perceived lack of access to fishing areas (17%).

Dr. Qian Cai, Director of Demographics and Workforce at the Weldon Cooper Center of the University of Virginia, has done extensive research on Hispanic immigrants and citizens in Virginia. Her research discloses that the majority of the estimated 570,000 Hispanics in Virginia are U.S. citizens. The American Community Survey of 2009 identified a total of 265,000 Hispanic foreign-born individuals.

Not surprisingly, adult citizens achieve more economically and educationally than the overall population. They are well represented in all occupational sectors; particularly, the military.

To reduce costs, Hispanic immigrants, both authorized and unauthorized, tend to pool and share resources with family and non-family members. Over generations, Hispanic citizens and immigrants do well with cultural

Purchasing Licenses

Convenient ways to buy saltwater and freshwater fishing licenses in Virginia:

- Online: www.dgif.virginia.gov/licenses
- Call 1-866-721-6911 (M-F, 8 A.M.-5 P.M., except holidays).
- In person: There are hundreds of license agents throughout the state.
- Mail: Download and print the proper form at (www.dgf.virginia.gov/licenses) and mail to the address provided.

For current fishing regulations and angling opportunities, visit:

- Virginia Department of Game and Inland Fisheries
www.dgf.virginia.gov/fishing/regulations
- Virginia Marine Resources Commission/Saltwater license
www.mrc.virginia.gov/regulations/swrecfishingrules.shtml

officers are not able to establish an effective dialogue or make the basic requests required to check for a fishing license or creel limits.

"Second, there's a cultural difference in conservation concepts," Garvis continues. "In my experience, Hispanics view fishing and crabbing from a subsistence-level rather than recreational approach. I have observed little to no understanding of seasonal creel limits, species size limits, or license requirements."

"When necessary in the field, we call a court translator who translates over the cell phone or a child in a fishing party often speaks English," adds CPO Travis Murray, also assigned to the Eastern Shore.

In response to such challenges, the

Department now incorporates a "Spanish for Law Enforcement" class as part of its training academy. Many CPOs volunteer to take Spanish classes through their local community college as a way to improve their communications skills. And, on DGIF-managed access areas (boat landings and fishing piers) frequented by Hispanics, the DGIF posts management rules in both English and Spanish.

The communications gap is not unique to Virginia, of course. Conservation officers in the Province of Quebec, for example, hand out small leaflets to anglers that are printed in nine languages. This handy guide succinctly provides local fishing information—including where to obtain a license.



Kwang Dyung and son John, formerly from South Korea, love to fish.

and socio-economic assimilation. English proficiency improves among Hispanics with each year spent in the U.S., while traditions and cultural values continue to influence their way of life.

A University of Massachusetts Department of Forestry and Wildlife 1998 study addresses the role of demographics and the constraints of minority group participation in recreational fishing. According to that study, between 1995 and 2025, 78 percent of the net change in the U.S. population will be attributed to minority members. This, in turn, will influence participation and expenditures in fisheries activities and affect fisheries management.

Policy

The Virginia Employment Commission reports that our state's Hispanic population will double between 2006 and 2030, resulting from births and immigration. Understanding this population composition and characteristics can furnish a factual framework for policy considerations.

Recognizing population trends can help agencies successfully recruit new participants and become more efficient in providing more opportunities and services to a growing number of minority constituents. Managers must

realize that they can no longer focus solely on the interest of the traditional angling client.

"We have been looking for new constituents in our agency," Lemmert says. "Hispanics are a new group knocking on our door. They are very valuable potential constituents to us. I think they want to enjoy the outdoors. Anyone with family values we can definitely use in our system."

That may be an understatement. Still, many law enforcement officers throughout our state and country relate to the opinion of CPO Sgt. Garvis who says, "I view our challenge as conservation officers as: How do we effectively enforce natural resource laws and teach a recreational conservation concept to an increasingly diverse population of future hunters, anglers, and outdoor enthusiasts?"

"It boils down to individuals showing a welcoming hand," Lemmert concludes. "Hispanics are going to affect the future of wildlife in this state and this country. It would be in our best interest to make them have a positive experience without violating our laws. Hopefully, our sportsmen will help them." ☀

Emily M. Grey is a writer, photographer, naturalist, and attorney from Virginia's Eastern Shore. Her passions are nature, traveling, and interacting with varied cultures.

RESOURCES

- The Recreational Boating and Fishing Foundation is a nonprofit organization whose mission is to increase participation in recreational angling and boating, thereby protecting and restoring the nation's aquatic natural resources. It helps people discover, share, and protect the legacy of boating and fishing through national outreach programs, including the Take Me Fishing™ campaign and Anglers Legacy™.
- To learn about Kids' Fishing Days, check www.HuntFishVA.com. Also, the Virginia Sportfishing & Aquatic Resource Education Program (SAREP) provides incentives that encourage people to get outside and fish.

This article has been posted in Spanish on our website, at www.dgif.virginia.gov/virginia-wildlife/special-feature.asp, thanks to Marisa Sanchez. Born in San Antonio, Texas, Marisa resides on the Eastern Shore with her family and serves the local migrant population as a Baptist missionary.

Northern Snakehead

Is Here To Stay



*Biologists continue
to monitor the
population in the
Potomac River system.*

story & photos
by King Montgomery

One of the many things I liked about being stationed with the U.S. Army in Thailand in the early 1970s was the food. Bangkok is called the Venice of the Orient, and there were food markets and stalls everywhere, particularly along the many canals that intersect the city.

Some of the markets are, literally, dozens of boats tied to the banks filled with goods and comestibles. I'll eat most anything at least once, and that probably included partaking of one of the most popular fishes, the snakehead. These primitive-looking creatures were kept moist while on display for sale, and they seemed to live a long time out of water.

I wouldn't see snakeheads again until last year when I joined fisheries personnel from

the Department (DGIF) on electrofishing sample runs on Virginia tributaries of the tidal Potomac River in Fairfax County. And you know what? After all those years, snakeheads still taste pretty good.

The Early Years

The Northern snakehead (snakehead) has the Latin moniker, *Channa argus*, and it first showed up in our area when an angler hooked one on a lure in a small pond in Crofton, Maryland, in May 2002. Crofton is a short drive from Washington, DC. After months of a comical media feeding frenzy, fueled by a summer apparently devoid of other worthy news, the Maryland Department of Natural Resources poisoned the pond—killing hundreds of adult, juvenile, and baby snakeheads. “Frankenfish” or “X-Files Fish,” so dubbed by the ever-eager press, was no more, and the civilized world as we know it was saved. Or was it?

In spring 2004, a bass fisherman caught the first known snakehead at the back of Little Hunting Creek. Subsequent electrofishing sampling by DGIF fisheries managers from the Fredericksburg regional office turned up more fish, including juveniles.

The Potomac River population of snakeheads continues to grow, and for the past several years the U.S. Fish & Wildlife Service has coordinated tagging studies by Virginia, Maryland, and the District of Columbia to learn more about the range of this invader and the effects it is having on the ecosystem. The study is not geared for a plan to eradicate the species—it’s much too late for that—but rather, to manage the snakehead as an integral part of the Potomac River system. The snakehead is here to stay.

DGIF fisheries biologists John Odenkirk and Steve Owens have been heavily involved with the snakehead since 2004. In a 2007 paper for the *Transactions of the American Fisheries Society*, they reported the snakehead was well established in the tidal Potomac River, and that at least eight year classes had been shocked up in sampling runs. The fishes were aged by reading the annular markings on the otolith, an ear bone in fishes that can yield age estimates much as counting the rings of a cross-section of a tree. The oldest fish was a little over 10 years of age, indicating the snakehead had been in the river since 1997 or 1998, which predates the Crofton pond event.



Left, DGIF biologist John Odenkirk and technician Lila Warren show off their double catch of stunned NSH in Pohick Bay. Above, technician Patrick Snellings hefts a large one from Little Hunting Creek.



Inserted just below the dorsal fin a numbered tag collects location and other data which are transmitted to the USFWS.

A man of Asian decent admitted dumping the snakeheads into the Crofton pond when they became too large and too much to care for in his aquarium. He had purchased them live in a New York City fish market and brought them to this area. A similar event probably happened earlier in Dogue Creek, which appears to be the population epicenter of the Potomac River snakehead population.

New Kid on the Block

Female snakeheads carrying more than 40,000 eggs can breed more than once a year if environmental conditions are favorable. Several of the 28 known species of snakeheads breed up to five times a year from spring through summer. Once hatched, baby snakeheads are kept close together and protected by adults for up to seven or eight



Stomach content analyses of NSH have shown a preference for banded killifish (above). Even small NSH have a formidable array of teeth for seizing and grasping prey.



weeks. Snakeheads are particularly aggressive to anything that threatens their young during that time.

The snakehead is a hardy creature that adapts to many conditions. It can remain out of water for a long time if kept wet. As an obligate air-breather, it extracts oxygen from the air using a system of chambers in its head where gases are processed. Contrary to press reports, the snakehead cannot 'walk' or 'fin' on land.

These freshwater fishes are native to Asia, Malaysia, Indonesia, and tropical Africa. They are highly valued as a food source, and are either caught in the wild or farm grown. They have been introduced into a number of countries, including Japan, where the Northern snakehead is reputed to be the tastiest of all the snakeheads.

Snakeheads are opportunistic feeders that consume mostly fish, but also eat crustaceans, amphibians, and insects. In the Potomac River, the banded killifish (*Fundulus diaphanus*) was the most common morsel turning up in stomach content analyses, followed by some bluegills, pumpkinseeds, and white perch. These latter species comprised about 5 percent of the snakehead's menu. All other prey species, including largemouth bass, were eaten less than 1 percent of the time.

Snakeheads continue to expand their range north and south of Fairfax County and across the Potomac into Maryland waters and tributaries, and they are well established in the 11 miles of river from the Woodrow Wilson Bridge (Interstate 95/495) to Little Falls and in the Anacostia River, too.

The snakehead has been documented from below Great Falls to the Chesapeake Bay, almost a 110-mile reach, and in the tidal tributaries of both Virginia and Maryland. It was thought that snakeheads couldn't live in the more brackish and salty waters of the lower Potomac or in the bay, but that apparently is not the case. Whether or not the snakehead makes it into the Chesapeake proper remains to be seen, but hopefully the higher salinity will be a barrier to further expansion.

Catch 'em Before They Catch You

Despite at least two Hollywood movies that have giant snakeheads devouring people—think "Jaws" in fresh water—the snakehead only is aggressive when feeding or protecting their young in the weeks following birth of progeny. This aggression, not unlike that seen in largemouth bass and others, helps make the snakehead an excellent gamefish. It readily attacks surface and subsurface lures and flies and puts up a spirited fight both in the water and once boated or brought to shore. These fish will do everything in their formidable power to not be landed, and can flop out of a livewell or a net in a heartbeat.

From spring through fall, snakeheads are found at the back of creeks in water less than three or four feet deep, and they move in and out of the creek backs with the tides. They seem to prefer aquatic vegetation, manmade

structures such as boat docks and slips, and appear to like muddy, mucky bottoms. If you find one, usually there are a couple of others hanging nearby.

As summer progresses, the non-indigenous invasive plant, hydrilla, and other aquatic vegetation become so thick in the creeks that boats have a tough time getting in and out. Here, it is best to fish along the edges of the grass, perhaps in a shallow-draft watercraft such as a canoe or kayak. Big outboards can't make it in.

Fish just as you would for largemouth bass, another non-native species by the way, with one very important exception: You'd better tie on about 8 to 12 inches of 20- to 30-pound test wire leader. These babies have a lot of sharp teeth, and they'll shake their heads something fierce when hooked. Use gloves or a Boga Grip-type device to land the fish or remove it from a net. Once the fish is aboard or ashore, you have several options including releasing it, killing and discarding it, or killing it and keeping it for the dinner plate. If you keep the fish to take home, you must call the **Snakehead Fish Hotline** at 804-367-2925 to report your catch and your possession of it. If the fish is tagged, call the number on the tag to report information on your catch. For more information, see: [www.dgf.virginia.gov/fishing/snakehead-faq.asp](http://www.dgif.virginia.gov/fishing/snakehead-faq.asp).

According to Odenkirk and Owens, there is no bad way to cook a snakehead. The firm, white flesh holds up well to grilling, broiling, baking, or frying. The fish is difficult to fillet because of its anatomy, but I recommend removing the meat from the bones however you can.

Invasive Organisms

Exotic species introduced into the U.S. by accident or by design can be good news or bad news; usually, the latter. Some of the more positive non-natives include brown trout, potatoes, corn, and honey bees. The nasty invasives cost our economy several hundreds of billions of dollars a year to control or mitigate. Some of the costly ones of recent memory, in addition to the snakehead: gypsy moths, zebra mussels, phragmites, carp, and kudzu.

Invasive animals can rearrange the food chain in an ecosystem to one degree or another, and actually supplant or severely damage indigenous species. As far as we know, the snakehead has not impacted the Potomac River adversely, but perhaps it's just a matter of



DGIF fisheries biologists Steven Owens (L) and John Odenkirk (R) prepare to measure and tag a nice NSH captured by Executive Director Bob Duncan in Aquia Creek.

more time. Or maybe the fish will just integrate smoothly into the mix and not be a problem. Meanwhile, the DGIF and other natural resource agencies will continue to monitor their population.

A very recent risk analysis study of the Northern snakehead reports the animal could populate every state in the Union, including the Southeast and parts of the main peninsula of Alaska, and could survive in the lower tier of all the Canadian provinces. Laws are being strengthened in both countries and within states and provinces to severely punish anyone moving snakeheads and other invasives into non-infected waters.

It is spring and I'm sitting in a DGIF electrofishing boat, chugging along Aquia Creek. Biologist John Odenkirk is driving and a plastic pink flamingo, once detritus in the Potomac River, is attached to the console. Up front with long-handled nets in hand are DGIF folks, Steve Owens and Patrick Snellings and Mike Isel (sometimes fisheries intern Lila Warren or volunteer Joe Wilkerson join in). On this particular sampling trip, DGIF Executive Director Bob Duncan joined us, and he worked hard scooping up numerous snakeheads. I suspect

he was having so much fun he didn't want to go back to the office.

Yes, the Northern snakehead is here to stay—barring some unforeseen and highly unlikely natural catastrophe that eradicates it. I find them very interesting creatures, with a strong will to survive. Their blotched camouflage markings are appealing, they fight like the devil when hooked, and they taste real good. How bad can that be? ↗

Frequent contributor King Montgomery has a degree in fisheries biology. He is always ready to meet new fish. Contact him at kingangler1@aol.com.

Eag



Eagles of the James

photo-essay
by Lynda Richardson



Living along the James River in the city, it's hard to believe how lucky Richmonders are. Besides a beautiful river full of fish to catch, rapids to paddle, and trails to hike, we have an enormous amount of wildlife making the river their home. But there is one bird in particular that never fails to take my breath away. Whether cruising the river for a meal, soaring high overhead, or sitting majestically in a tree overseeing its kingdom, the bald eagle reigns supreme as our James River ambassador to the power and beauty that this river embodies.

Page 18 top: While eating fish, sometimes the bones get stuck in the eagle's throat. Here, Bandit looks like she's calling but is really just working the bones down. Canon EOS 50D digital camera, Canon100-400mm f/4.5-5.6 IS zoom lens, ISO 320, 1/250th, f/6.3.

Left, Smokey and Bandit sit in a tree near their nest. If an intruder is spotted, watch out! Eagles aggressively protect their territory. Canon EOS 50D digital camera, Canon100-400mm f/4.5-5.6 IS zoom lens, ISO 200, 1/800th, f/7.1.



Above, eagles are all about eating, and watching eagles grab fish from the water is an exciting photographic challenge. Canon EOS 50D digital camera, Canon100-400mm f/4.5-5.6 IS zoom lens, ISO 250, 1/1000th, f/6.3.

A DUCK HUNTER

by Sally Mills

Driving to the spit of land that curls out into the southern waters of the James can make a person think they've reached the end of the earth. And when you cross over the berm that forms the western boundary of Fishouse Bay, you're pretty sure you have. But continue on. At the end of the road where the breakers wash up against large boulders, you get out of the car and peer across the whitecaps to a lush, modern landscape: high-end, gated communities marking the outskirts of Colonial Williamsburg and the famed Busch Gardens. You are standing on Hog Island Wildlife Management Area (WMA)—several lifetimes removed from that world across the mighty river.

It was here, due east of Jamestown Island, that settlers kept their hogs and other livestock, according to accounts from the young colony. The land was purchased by the Game Commission in 1951, courtesy of Pittman-Robertson funds. Its appeal as a refuge was two-fold: to maintain the island as a protected waterfowl feeding and nesting ground; and to draw waterfowl to surrounding lands and, in so doing, improve hunting in the area.

Pintail ©John R. Ford

ER'S DREAM

A stiff breeze sweeps across the lower James, bringing birds and ducks to this magnificent outpost.

Sally Mills

Today, Hog Island WMA spans some 3,900 acres but actually was pieced together by three tracts of land: Hog Island, the Stewart parcel, and the Carlisle property. Its immediate proximity to the Surry Nuclear Power Plant provides some expected irony, and that's not lost on supervisor John Randolph. Randolph, who's been overseeing the 2,900 acres of planted fields and 8 impoundments since early 2002, acknowledges the apparent incongruity. Yet, spoil from the power plant construction provided the ballast for dikes at these impoundments. From Randolph's perch on Hog Island, life has been pretty sweet.

Sweet, that is, until Hurricane Isabel delivered in 2003 a full force punch that brought over four feet of water and 80-mph winds to the area. If you look carefully, you can still see the water mark on the utility building that houses several bays of earth-moving equipment. The storm tore the roof

Dwight Dyke

SPRING 2011

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off the office, damaged the lengthy storage facility, swamped engine parts with debilitating salt water, and scattered boats, trailers, tools, and decoys (64 dozen, that is) to the far reaches of the planted field directly behind it. In true grit style, Randolph arranged for local prisoners to fetch and restring the duck and goose decoys.

The federal government, through FEMA, and Ducks Unlimited provided financial resources while Department staff and volunteers supplied the manpower to restore the battered shoreline. Over the years since, plants like three-square, Walter's millet, spikerush, and smartweed—those that define a coastal scrub community—have slowly returned.

The Mission

Today the island is managed primarily for waterfowl hunting, which takes place September through January. Three managed

resident goose and teal hunts occurred last September, and ten waterfowl quota hunts took place November through January. Those lucky enough to be selected to participate in a randomly drawn hunt can count on a well executed event, an experience—it is clear—that tops Randolph's list of priorities. And he has a long list.

Deer are hunted during limited seasons here, too, mostly to keep their numbers in check. Dove and other small game offer additional hunting opportunities. The list of wild animals that reside or pass through is quite impressive, indeed. Behind the wheel of his truck, Randolph points to various spots on the horizon line and ticks off sightings from earlier days: deer, bobcat, black bear, turkey, raccoon, rabbit, mink, muskrat... others.

And he hasn't even started on the birds, many of which travel this stretch of the Atlantic Flyway during spring and fall migrations. Thousands of tourists also make their

way to this outpost each year, armed with nothing more than binoculars and field guides in hand. They travel from as far as Norway but many, of course, come from Virginia and other mid-Atlantic points. Three bald eagle nests are active on the island, and the list of resident or migrating birds grows each year—from red-winged blackbirds, egrets, and herons to offshore varieties, like cormorants and brown pelicans. Raised viewing platforms, along with a series of trails, appeal to these birders and other wildlife watchers.

Managing for Waterfowl

What does it take to manage for waterfowl? John Randolph seems to know, instinctively. At its core, managing for any species of wildlife means learning the rhythms of the seasons, the weather patterns that ensue, and working with forces such as tides and seasonal migrations. Understanding habitat need is essential, of course, and site conditions can change slowly over time—requiring a keen eye and occasional intervention. Here on the island, vegetation had been relatively constant until invasive phragmites took hold. Fighting the intrusion of non-native flora is a constant challenge and one that state budgets can rarely keep up with. But Randolph tries. Periodic use of herbicides is key. Without them, the sandy hummocks would become a monotone of tall grasses waving their wispy, cream-colored heads in the perennial breeze—gorgeous to look at, but offering little to no nutritional benefit to ducks and other critters.

Another important piece of the stewardship regime involves moist soil management, or controlling the level of water in the impoundments. Working with spring rains, staff employ a series of devices throughout the impoundments, called Carolina rice trunks, to capture the rainwater rolling in from across the watershed. When water levels have naturally dropped, those rice trunks are lifted to coax estuarine water back into the ponds during high tides. It's a balancing act, for sure, but Randolph appears to have it well in hand. When those wooden locks are raised, fish like channel cats and carp can also find their way into the network of creeks. So, too, does the occasional blue crab and other saltwater migrants. These are the unexpected, bonus meals snapped up by the white egrets and great blue herons ever present.

Operations at Hog Island

- ❑ September:
 - ✓ Closed on Wednesdays for managed hunts.
 - ✓ Open for non-hunting activities all other days, sunrise to sunset.
- ❑ September 30 - February 1:
 - ✓ Quota hunts in progress (by permit only).
 - ✓ Open Sundays only for non-hunting activities, sunrise to sunset.
- ❑ February 2 - August 31:
 - ✓ Open for non-hunting activities seven days a week, sunrise to sunset.

For more detailed information, go to: www.dgif.virginia.gov/wmas/detail.asp?pid=4.



John Randolph

A youth waterfowl hunt is held at Hog Island in October. Right, a Carolina rice trunk helps moderate water levels at the WMA.

The fruits of Randolph's labors are readily apparent; DGIF staff have created what is recognized across Virginia as one of the finest waterfowl management areas here. Hunters jump at the chance to show their appreciation. Mallards, wigeon, pintails, green- and blue-winged teal, canvasbacks, redheads, gadwall, scaup, and Canada geese are among the numerous species hunted throughout the season—when, thankfully, the notoriously large mosquitoes and greenhead flies have died out. During a typical hunt, Randolph's early morning breakfast is followed by a safety briefing, blind drawing, and then a comfortable ride to the impoundments. At each blind a small boat and several dozen decoys await hunters. They spend about five hours in their blinds scanning the skies and calling to weary waterfowl before John returns to chauffeur them back to the office to change out of their hunting garb. Then, tales of fast-moving birds and slow-shooting hunters unfold.

Targeting the Next Generation

A youth waterfowl hunt takes place in mid-October, and several partners work together to make that a memorable event. The Wildlife Foundation of Virginia sponsors the day, taking care of logistics and door prizes. Last season, Richmond-based Green Top donated hats and other merchandise. Hunter education instructors and DGIF volunteers make sure that no one goes home empty-handed. During the October 2010 hunt, a dozen kids took 14 ducks and 2 geese. Here on Hog Island the participants are lavished with praise and encouragement. WMA staff and volunteer mentors understand: These kids represent the future of the hunting tradition.

John Randolph clearly has a soft spot for this annual celebration. Brought up in a household where hunting and fishing were

basic to the meals on the table, he deeply appreciates the knowledge imparted by his dad to him at a very young age. Wildlife "quizzes" often took place during car rides to a favorite patch of woods or fishing hole.

Perhaps John conveys it best when, at the end of our time together, he repeats something his wife heard in a phone call from a young hunter's mother after the waterfowl day. When the woman asked her son if he had a good time on the hunt, he answered: "This is the greatest time I've ever had in my life."

"If I can provide a kid with that... well, I've done my job," John says, with just the hint of a smile. ☀

Editor Sally Mills enjoys any opportunity to get outdoors, especially to kayak, fish, or tend her honeybees. She plans to tackle fly-fishing lessons this fall.





story & photos
by Bruce Ingram

The Clinch is a Cinch for *Fun Floating*

Think of the far western Virginia Clinch River in NCAA basketball terms.

Whereas major conference teams such as UNC, Duke, Virginia, and Virginia Tech garner much of the attention—much like the state's major rivers, the New, James, Shenandoah, and Potomac—mid-major teams like Butler, VCU, and George Mason can showcase their talent when given a chance (just as mid-major rivers such as the Maury and Rapidan do).

The Clinch River is another one of the commonwealth's mid-major rivers that has much to offer from its origins in Tazewell County along its course through Russell, Wise, and Scott counties. Fisheries biologist Tom Hampton with the Department (DGIF) certainly thinks so.

While true that the Clinch, like most other drainages in Virginia, has some water quality issues with runoff from mining, industrial, agricultural, and residential sources, Hampton maintains, "The Clinch is a wonderful resource. It has some fairly unique fisheries for Virginia [with] sauger and freshwater drum [being] two of the more unusual species."

Hampton adds that a new state record sauger that weighed three pounds was caught on April 24, 2010 by Ronald Davis of Duffield. And another attribute of the fishery is its amazing diversity, as smallmouth, largemouth, and spotted bass all dwell there along with walleye, rock bass, redbreast, longear, and bluegill sunfish, plus musky and black crappie. The biologist also

Spectacular rock faces like this one are common along the Clinch, as are the heavily wooded banks (R).

reports that channel and flathead catfish exist in good numbers and sizes.

Possible Float Trips

The DGIF lists 13 possible floats for the Clinch from Blackford to the Tennessee state line. I specifically asked Hampton about an excursion with good numbers of brown bass.

"I would recommend the higher gradient floats for smallmouth, and maybe one of the other floats for a variety of other species," says the biologist. "Blackford to Puckett Hole in Russell County would be an excellent float for smallmouth. Then a float somewhere around Dungannon, Fort Blackmore, or Clinchport would give some perspective from the lower reaches of the river."

Other sections that offer the higher gradient that brown bass crave include Puckett Hole to Nash's Ford (two falls exist, portages required), Burton's Ford to Miller's Yard, Miller's Yard to Dungannon, and Dungannon to Route 659.

Exploring the Clinch

Every June fellow Botetourt County school teachers Tim Wimer, Doak Harbison, and I venture forth on a float trip. Last June we

chose to explore the Clinch with Steve Cheers who operates Mountain Sports in Bristol. Based on Tom Hampton's recommendations, we opted to run from Blackford to Puckett Hole the first day, camp out on the river, then go from Burton's Ford to Miller's Yard.

"A lot of even local people don't know how good the fishing and paddling is on the Clinch," says Cheers as we drive to the put-in. "Folks here drive right over the Clinch on their ways to the North Fork of the Holston or the New River because of their trophy smallmouth reputations."

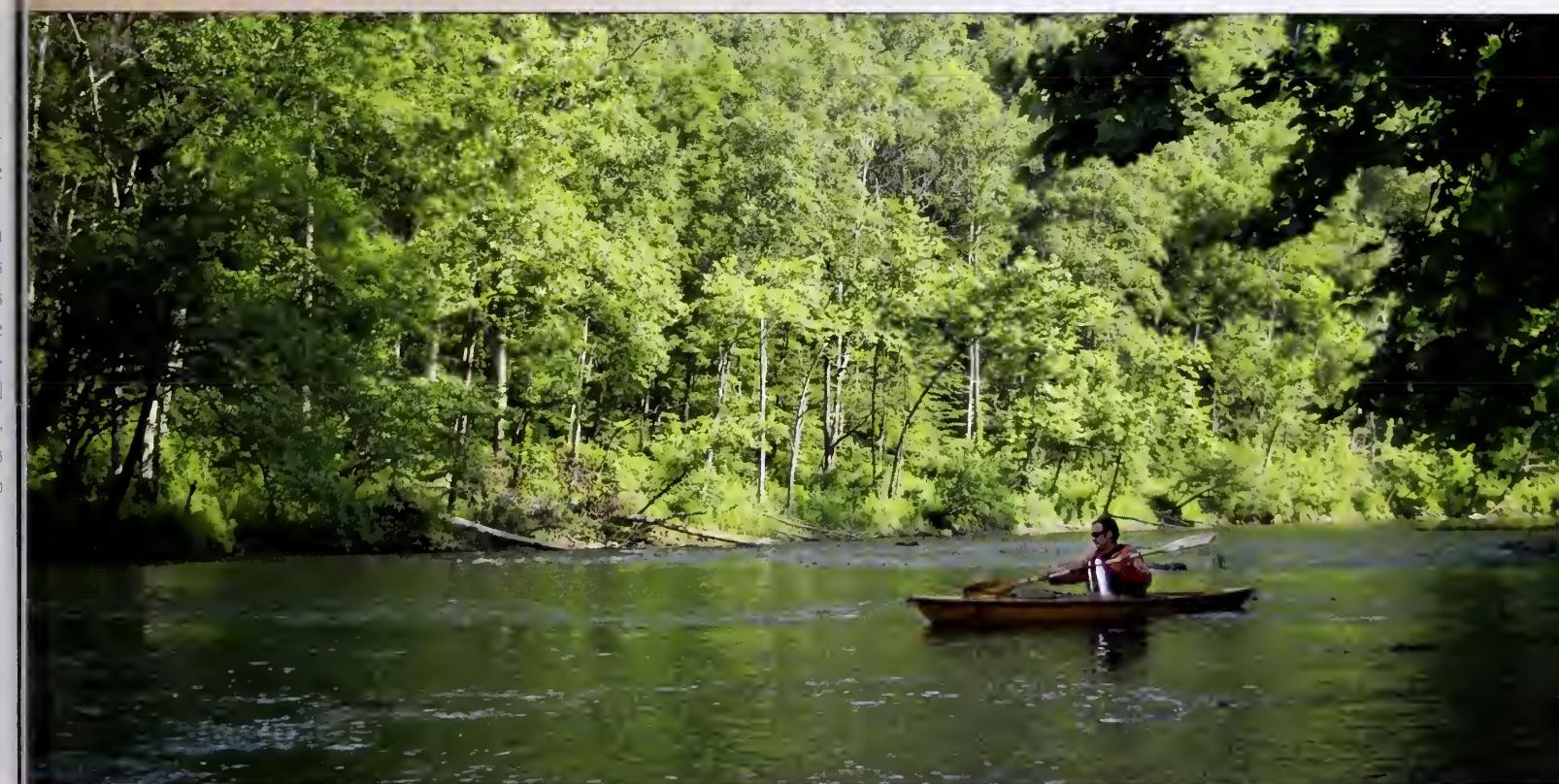
Earlier when I had stopped in at the Lebanon library, director Kelly McBride said the same thing, adding that she and her husband infrequently saw other folks floating the river.

If bucolic settings and bird watching are two of the aspects that add to the experience when you float a river, then the Clinch will certainly satisfy you. Much of the river flows by farms that rest on steep mountain hillsides, and I tallied 24 bird species before we had ventured 100 yards from the Blackford put-in.

"The Blackford trip is typical of much of the river as far as what people will encounter," continues Cheers. "You'll float through some



Doak Harbison of Botetourt County holds a fine Clinch River smallmouth.





Like many Virginia rivers, the Clinch features water willow beds that draw game fish.

heavily wooded areas, come to a mountain-side cattle farm, then maybe by some fields, then drift through some more deep woods with a rock face or two."

That diversity of habitat explains why the bird watching is so good. I hear red-eyed vireos, scarlet tanagers, and wood thrushes in the deep forest; yellow-throated vireos, Louisiana waterthrushes, and Baltimore orioles along the river; thicket loving white-eyed vireos, and yellow-breasted chats as we meander past overgrown fields; and Carolina wrens seemingly everywhere.

In the afternoon, Doak Harbison is the first to spot a pair of bald eagles, and Cheers excitedly exclaims that this is the first time in his many years of floating the river that he has spied this raptor. I note more painted turtles than on any Old Dominion river I have run this decade, and we observe a striped skunk that has been displaced by a farmer's haying machine.

Meanwhile the fishing is just as enticing. In early afternoon, as I am working a Case Magic Stik along a rock-laden shoreline directly below a Class I rapid, the rod bows and the line veers toward mid-river. A while later, I land a fine 15-inch smallie, which turns out to be our best fish of the day,

although Harbison loses a 16-inch brown bass that smashes a Rapala jointed minnow, and an even bigger bronzeback takes a swipe at my Rapala Original.

Steve Cheers is among a new breed of float fishermen who prefer to fly fish from a kayak, and he steadily entices smallmouth bass and rock bass with poppers, streamers, and nymphs. Around 5:00 PM., the sky darkens, and I mistakenly credit that occurrence to the fact that we are floating through a gorge. But then thunder erupts and, propitiously, we spot a farmhouse on river left just 75 yards downstream.

Hoping to wait out the storm on the structure's front porch and, to paraphrase Tennessee Williams, "always depending on the kindness of strangers" while floating rivers, I knock on the door. Eighty-six-year-old Nana Helton Webber greets me, and I ask her what are her favorite things about living on the river.

"The mussels," she immediately replies. "Everybody around here knows that we have more mussels than anywhere else in the world."

"My great, great grandfather, Fulton Hess, built this house in 1882, but he sold the place to Henry Honaker in the early 1900s. It

was Honaker who built a grist mill here, but all that's left are the stones. My grandfather, Edward Helton, bought the land back in 1919 and that's why I'm living here today. The Hesses own that red farmhouse upriver too."

The storm temporarily abates. We bid farewell to someone we are already calling "Nana" and quickly paddle to the Puckett Hole take-out. There, I record the 46th bird species of the day (a great-crested flycatcher) and meet a family that has come to the river for an evening of fishing.

They are the only folks we've seen on the river all day, and when I ask them where they are from and what they are fishing for, the father replies: "From over the hump," and, "anything that bites," respectively. The rain begins, night falls, and upon arriving back at the Blackford access point, we find that a sycamore has fallen on Steve's tote vehicle, crushing it. That and the rising, muddy water ensure that there will be no day two on the Clinch—this year. But it's a cinch that I'll return to the Clinch again. ☀

Bruce Ingram has authored many river guide books. His latest book is *Fly and Spin Fishing for River Smallmouths*. For more information, contact him at be_ingram@juno.com.



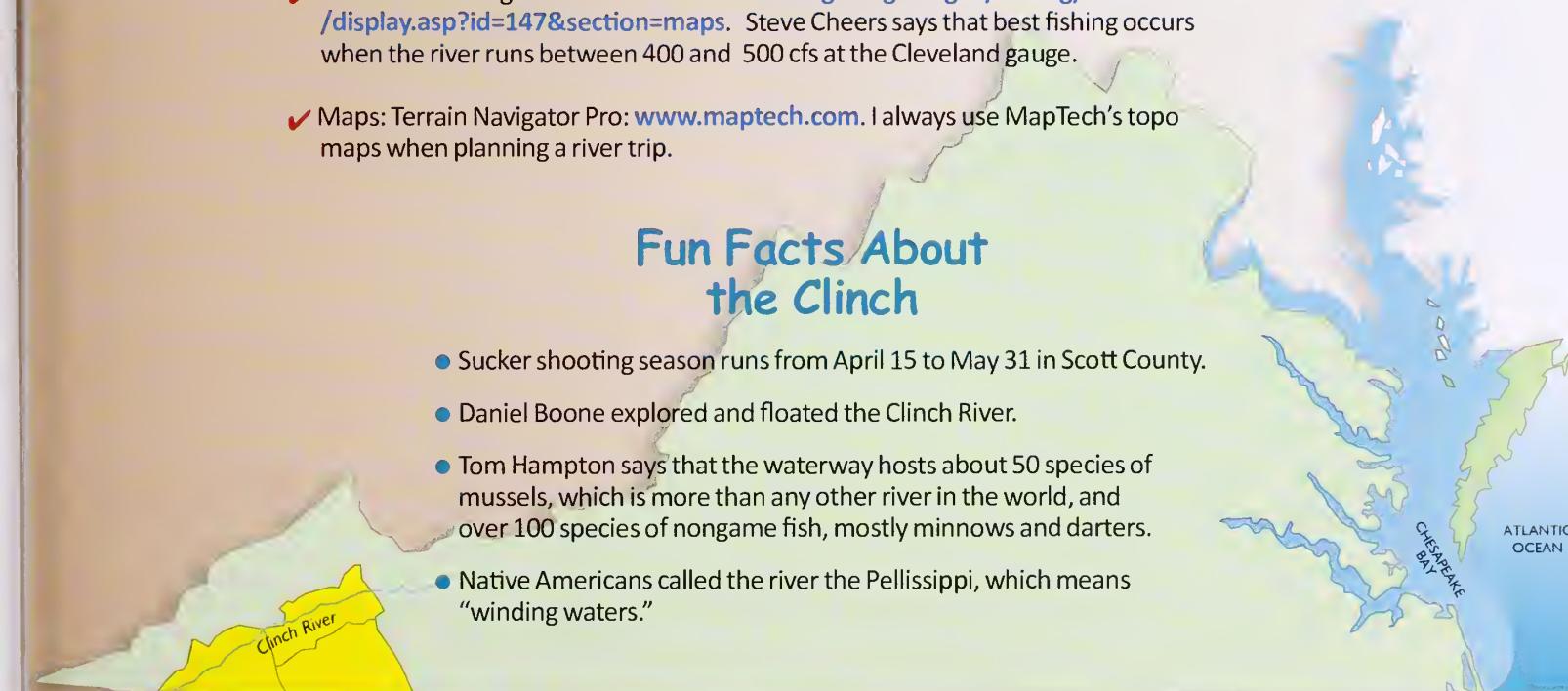
Steve Cheers admires a fine Clinch River rock bass.

Trip Planning

- ✓ Heart of Appalachia Tourism Authority: www.heartofappalachia.com.
- ✓ Mountain Sports offers current fishing information, best fly patterns for the river, and guided trips: www.mountainsportsltd.com, 276-466-8988.
- ✓ DGIF Float Fishing Guide to the Clinch: www.dgif.virginia.gov/fishing/waterbodies/display.asp?id=147§ion=maps. Steve Cheers says that best fishing occurs when the river runs between 400 and 500 cfs at the Cleveland gauge.
- ✓ Maps: Terrain Navigator Pro: www.maptech.com. I always use MapTech's topo maps when planning a river trip.

Fun Facts About the Clinch

- Sucker shooting season runs from April 15 to May 31 in Scott County.
- Daniel Boone explored and floated the Clinch River.
- Tom Hampton says that the waterway hosts about 50 species of mussels, which is more than any other river in the world, and over 100 species of nongame fish, mostly minnows and darters.
- Native Americans called the river the Pellissippi, which means "winding waters."





2010 Angler Hall of Fame

The Virginia Department of Game and Inland Fisheries' Hall of Fame list is a compilation of all the freshwater anglers who qualified for advanced awards in the Angler Recognition Program.

To achieve the status of Master Angler I, five trophy fish of different species must be caught and registered with the Virginia Angler Recognition Program. For Master II, 10 trophy fish of different species must be caught, and so on for the Master III or IV level. Expert anglers must catch and register 10 trophy fish of the same species.

Each angler that accomplishes this feat receives a Master Angler or Expert Angler certificate and patch. Expert patches include the species on the patch. There is no fee or application for Master or Expert.

If you have records prior to 1995 and believe you may have obtained this angling status, please call the Virginia Angler Recognition Program at (804) 367-9149 to have your records checked.

The Creel-of-the-Year Award recognizes the angler who accounts for the most trophy-size fish caught and registered in the Angler Recognition Program from January 1 through December 31, annually.

MASTER LEVEL I

Punk Baker
Gerald Baker, Sr.
Joseph Barnes
Barry Belcher
Robert Blanks
Michael Bowling
Robin Boyd
Franklin Brown, Sr.
Robert Burnette
Christopher Burris
Floyd Byrd, Sr.
Bobby Carr
Keith Carroll
Dana Cash
Donald Chervenak, Jr.
James Clifton, Jr.
Paul Craighead
Robert Davies
David Davis
Wes Dennen
Michael Draper
K. W. Flowers
Eric Foster
Wesley Gibson
Lawrence Hansford
Charles Harless
Thomas Hawley, Jr.
Ronnie Heath
Robert Hensley
David Houchins, Sr.
Anthony Ingram

Charles Jarvis, Sr.
Michael Katcham
Mark Lane
Justin Largent
Daniel Larson
Richard Laudermaan
Wayne Lewis
Jacob Lusk
Rocky Mabe
Jerry Mabry
Ralph Magee, Jr.
David Major, Jr.
Robert Manning
Nathan Martin
Leon Mettler
Joseph Miltier, Jr.
Tony Mitchell
Tim Moyer
Steven Mozucha
Benjamin Mullins
Spencer Musick
Alexander Nazaruk
John Nettles
Richard Newton
Walter Obst
Kenneth Otte
Raymond Pace
Kelsy Padgett
Richie Palmer
Thomas Panko, Jr.
Norman Pearce
George Peters
Marvin Ponton, Jr.
Kenneth Powers, Jr.

William Reichard
Jerry Reynolds
Luke Rush
John Schutte
Dennis Slater
Chad Shipe
Steven Stoupa
Michael Strickland
Robert Suddarth
Scott Torgerson
Randall Tucker
Terry Wagner
Ronald Walker
Lyndell Woods
Amy Worrell
Linwood Wright

EXPERTS

Largemouth Bass
John Bodmer
William Brandon
Frank Butz
Bruce Gilley
Ronald Graves, Sr.
Michael Greene
Christian Harner
Scott Hewett
Jackie Jones
Larry Lindsay, Jr.
Jacob Lusk
Robert McDaniel
Tony Mitchell
Gene Moubrey
Richard Nelson
Edgar Pettry, II
Anton Price
Anthony Smith
Christopher Wells
James Wood
Chad Woodson

Master Level II

Dorothy Brandon
Darian Brown
Michael Campbell
Jimmie Edwards
Hal Hampton, Jr.
Michael Heflin, Sr.
Michael Keller
Jack Koller
John Woods

Smallmouth Bass
Mark Childress
Bernard Harvey
Joe Lugar, Jr.
Robert Streeby
Charles Toney, II

Master Level III

John Lukomski, III

Crappie
Robert Davies
Gary Miller, Jr.

Master Level IV

Rock Bass
Leonard Corum

Sunfish
Jayton Billups
Tamiro Chozu
Brette Cox
Robert Jimerson, Jr.
Marcus Mitchell
Steven Mitchell
Gary Poole
Kenneth Runyon, Jr.
Daniel Salvitti
Michael Strickland
Joseph Vick, Jr.
David Visocky

Striped Bass
John Thomas

White Perch
Stephen Miklandric

Channel Catfish
Duane Barlow

Blue Catfish
Thomas Athey
James Butler, II
Chris Dovel
Beverly Gillespie
Linford Harrell
Charles Jarvis, Jr.
Charles Jarvis, Sr.
Robert Jimerson, III
Ralph Magee, Jr.
Michael Mingee
William Nicar
Brooks Noble
Jason Study
Richard Sutton, Sr.
Walter Walker, Jr.

Flathead Catfish
Franklin Dalton
Jonathan Linens
Robert Stottlemeyer

Rainbow Trout
Harold Bayne
Milton Bowling
James Dolly, Jr.
Bruce Hildebrand
Kevin Huffer
Stevie Knight, Jr.

Jerrold Pike	Brown Trout	Walleye	Kenneth Runyon, Sr.	Largemouth Bass (2),
Robert Pike	Billy Brads	Kenneth Grubbs, Sr.	Kenneth Runyon, Jr.	Smallmouth Bass (4),
Kathy Reynolds			John Scott	Crappie (1), Rock Bass
Mark Shaw	Chain Pickerel	Yellow Perch	Michael Vaughan	(5), Sunfish (22), Striped
Stephen Spencer	James Brown, Sr.	Steve Clements	David Visocky	Bass (2), White Perch (5),
Brook Trout	Jackie Jones	Arthur Conway	John Woods	Channel Catfish (3), Blue
Howard Farris	Richard Shelton	Robert Estep, Jr.		Catfish (3), Rainbow
Thomas Panko, Jr.	Roy Taylor	David Forbes		Trout (26), Brook Trout
Darlene Simmons		Robert Hensley		(1), Brown Trout (1),
Jacob Truman	Muskellunge	Jack Koller	Matthew Miller	Chain Pickerel (6),
Jonathan Woods	Robert Burnette	Wayne Lewis		Muskellunge (3), Wall-
	James Gray, Jr.	Kenneth McKinney		eye (1), Yellow Perch
	Jeffrey Shell	Stephen Robbins, Sr.	Stephen Miklandric (103)	(16), Gar (1), Bowfin (1)

2010 ANGLERS OF THE YEAR

SPECIES/SIZE	ANGLER'S NAME/HOME	BODY OF WATER	DATE
Largemouth Bass, 13 lbs. 9 oz., 27½ in.	Anthony Smith, Gretna	Leesville Lake	04/28/2010
Smallmouth Bass, 6 lbs. 10 oz., 23¼ in.	David Kees, Rich Creek	New River	07/27/2010
Smallmouth Bass, 6 lbs. 10 oz., 22 in.	Johnny Martin, Moneta	Smith Mountain Lake	05/23/2010
Crappie, 4 lbs. 8 oz., 18 in.	Donnie Giles, Lynchburg	Private Pond	04/10/2010
Rock Bass, 1 lbs. 11 oz., 12½ in.	Kenneth Rigney, Hurt	Staunton River	11/04/2010
Sunfish, 2 lbs. 15 oz., 13¾ in.	Johnny Thomas, Grundy	Flannagan Reservoir	03/29/2010
White Bass, 3 lbs. 3oz., 20 in.	Chandra Martin, South Boston	Hyco River	04/04/2010
Hybrid Striper, 10 lbs., 28 in.	Garry Farmer, Clintwood	Flannagan Reservoir	06/10/2010
Freshwater Drum, 14 lbs. 2 oz., 27½ in.	Donald Estes, Henrico	Lake Gaston	04/08/2010
Striped Bass, 38 lbs., 41 in.	Anthony Smith, Gretna	Leesville Lake	05/08/2010
White Perch, 2 lb.	Alan Strbavy, Sr., Virginia Beach	Elizabeth River	12/08/2010
Channel Catfish, 29 lbs. 12 oz., 38¼ in.	Christopher Waybright, New Kent	Pamunkey River	07/18/2010
Blue Catfish, 85 lbs., 49 in.	Charles Jarvis, Sr., Waynesboro	James River	10/09/2010
Flathead Catfish, 58 lbs. 7 oz. 46½ in.	Dyrlwood Hodges, Jr., Ferrum	Buggs Island Lake	05/02/2010
Rainbow Trout, 15 lbs. 2 oz.	Mark Eavers, Greenville	Private Pond	06/05/2010
Brook Trout, 7 lbs. 8 oz., 22½ in.	Jonathan Woods, Buena Vista	Hemlock Springs	10/15/2010
Brown Trout, 15 lbs. 6 oz.	Mark Eavers, Greenville	Private Pond	06/05/2010
Chain Pickerel, 5 lbs. 3 oz.	Robert Jimerson, Jr., Glen Allen	Chickahominy Lake	02/22/2010
Muskellunge, 42 lbs. 52½ in.	Mitchell Dowdy, Blacksburg	New River	01/16/2010
Northern Pike, 8 lbs. 1 oz., 34 in.	Guy Woods, Broadway	Lake Laura	04/10/2010
Walleye, 10 lbs., 28½ in.	Thomas Jackson, Sr., Abingdon	S. F. Holston River	05/29/2010
Yellow Perch, 3 lbs., 16½ in.	George Mullins, Haysi	Flannagan Reservoir	03/08/2010
Gar, 22 lbs. 6 oz.	Leonard Corum, Dolphin	Lake Gaston	06/02/2010
Bowfin, 12 lbs. 8 oz., 33 in.	James Batten, Chesapeake	Northwest River	06/30/2010
Carp, 44 lbs. 8 oz., 43 in.	Shaun Fleming, Suffolk	Private Pond	04/23/2010

PLEASE NOTE: You can find all you need to know about the Trophy Fish Program at www.dgif.virginia.gov/fishing/trophy/ or call 804-367-9149.

AFIELD AND AFLOAT



Outdoor Classics

by
Beth Hester

Wade Fishing the Rappahannock River of Virginia & Wade Fishing the Rapidan River of Virginia

by Steve Moore
2011, 2010 CatchGuide Books/Calibrated Consulting, Inc.
Photographs, maps, and GPS coordinates
\$14.95 paper, \$9.95 eBook version
www.switchfisher.com

"Relying on foot power provides an angler a colossal advantage given the ebb and flow of the river during the summer... wading actually allows you to spend more time fishing the good spots."

—Steve Moore

Author Steve Moore is a self-described hardcore, terminally addicted fisherman, and these new guides to wade fishing the Rapidan and Rappahannock reflect his intimate knowledge of these productive rivers. If you'll take the time to study these volumes before setting out, you will derive great benefit, as Steve has quite literally done all of the leg-work and reconnaissance for you.

Whether the quarry is trout, shad, or smallmouth bass, Steve's guides will get you on the right waters with a minimum of guess-work; you'll spend more time fishing and less time determining right-of-way, hunting down prime access points, or fruitlessly searching for fishing sweet spots.

Steve shares information on water volumes and flow and the best times to fish, and he has devised a truly helpful system of coded tables that rate each fishing area—covering everything from scenery, structure quality, population pressure, parking, and, for the fly angler, whether the terrain and surrounding vegetation is backcast friendly.

He also thoughtfully includes information on the difficulty of the terrain and the stability of the river bottom for anglers who may be concerned about the fitness level required to comfortably fish each river. This select data is also compiled in the form of convenient, overall summaries of each destination, giving anglers a distinct advantage.

Last, but certainly not least, are the detailed photographs, keyed maps, and GPS coordinates that will guide you along the way. It's almost as if Steve is sitting beside you on the front seat of your truck, giving you driving directions, friendly gear tips, and miscellaneous sage advice.

These companionable volumes could only have been written by someone who knows these rivers personally and who is unselfishly hard-wired to share their secrets with us. Highly recommended.

Congratulations Young Writers

The Virginia Outdoor Writers Association announced the winners of their student writing competitions during their annual meeting at Bear Creek Lake State Park, April 14th. Congratulations to the following high-school students:

- First-place winner, Toshali Randev, a Freshman at Briar Woods High School in Loudoun County, with her story, My Side of the Mountain.
- Second-place winner, Hunter Devall, a Sophomore at Tunstall High School in Pittsylvania County, with his story, Wheat Field Giant.
- Third-place winner, Alex Pearce, a Junior at Randolph-Henry High School in Charlotte County, with his story, Holy Mackerel.

And, kudos to winners of the collegiate writing competition:

- First-place winner, Mallory Taylor, a Junior at Ferrum College, for her story, Recreation Leadership: Where Business Meets Adventure.
- Second-place winner, Brandon Fair, a Sophomore at Virginia Tech, for his story, Canadian Pinholes.

First-place stories will be shared in future issues of this magazine. VOWA thanks the parents and teachers who inspired their students to enter the contest, the judges, and the supporting organizations who donated prizes and cash awards to the winners.



Executive Director Bob Duncan with Mallory Taylor



Alex Pearce (L) and Hunter Devall



Bringing Nature Indoors

Shenandoah River State Park, located approximately 8 miles outside of Front Royal, opened 11 cabins in July, 2010. The addition of these new facilities allows park guests to enjoy a comfortable stay in the beautiful Shenandoah Valley, with spectacular views of the river and mountains. And though one only has to step outside the door to enjoy the tranquil surroundings here, we wanted our guests to feel immersed in the natural world when inside their cabins, as well.

In order to accomplish this goal, the park decided that each cabin would be outfitted with pictures—according to a different theme. These had to be really special pictures: ones that truly reflected the beauty of the plants and animals found in the park. Jackie Labovitz, a park volunteer and a *Virginia Wildlife* photography contest winner, came up with a wonderful idea.



As a professional photographer, Mrs. Labovitz has many of her photographs enlarged and printed on canvas for display during exhibitions. She suggested that we might do the same for our cabin picture project, using some of the gorgeous photos found in *Virginia Wildlife*. When contacted, many of the magazine's photography contest winners generously agreed to donate their work for this purpose. The wonderful folks who contributed to this project include Mundy Hackett, Harold Jerrell, Jim Kirby, Joe Mikus, Ricky Simpson, Jackie Labovitz, and Ruimin Wang.

Thanks to these contributors, a beautiful canvas hangs over the fireplace in each cabin. Guests really appreciate the indoor scenery—making their stay at the park even more memorable. This cabin project is just one more way for visitors to experience just how wonderful Virginia really is!

This article was contributed by Shenandoah River State Park staff.



Sign Up to Help Survey!

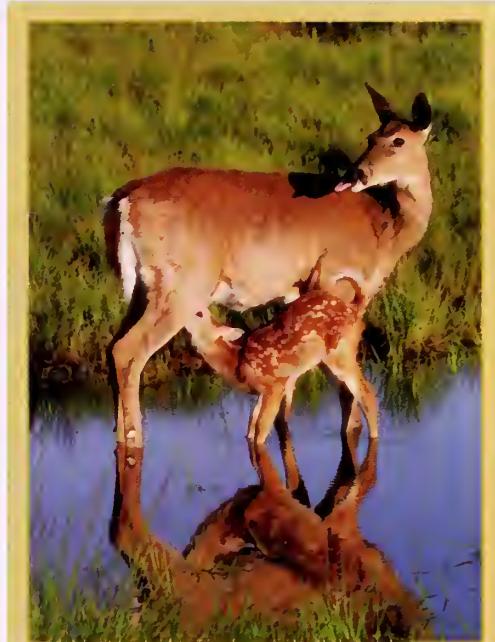
The Virginia Herpetological Society (VHS) will hold a special survey at Old Colchester Park in Fairfax County on Saturday, June 4. The VHS has been invited to conduct a survey by the Fairfax County Park Authority on a recently acquired property on Mason Neck, called Old Colchester Park. This will be a one-day survey to help the park authority inventory their natural resources on site. Old Colchester Park is 140 acres and is currently closed to the public. This means that the VHS is giving you access to sites where other herpers are not permitted! Contact John Orr (jorr1@gmu.edu) for information.

VHS will hold its Sixth Annual Herp Blitz at Hungry Mother State Park on June 24-26. As usual, the main survey day will be on Saturday (June 25) and pre-registration is required. Contact Jason Gibson (frogman31@gmail.com) for information and to pre-register. Hungry Mother State Park has many camping spaces but to ensure you get one, reserve a spot early.

VHS is partnering with the Virginia Institute of Marine Science this year to assist with the first-ever statewide Northern diamond-back terrapin survey. This will occur at various eastern Virginia sites on designated weekends in June and July. The population status of this species is unknown in Virginia, but it is believed to be declining due to habitat loss and drownings in crab pots. Obtaining a population count will make a tremendous contribution toward regulating the activities that negatively impact terrapins. If you are interested in participating, contact Kory Steele at president@vaherpsoociety.com.

Information and further details about these events can be found at: www.virginiaherpetologicalsociety.com/2011-events/2011-events.htm.

IMAGE OF THE MONTH



Congratulations go to Gilpin Brown of Richmond for his beautiful early morning image of a white-tailed doe and her fawn nursing at Big Meadows in Shenandoah National Park. I guess the doe didn't like her picture being taken... thus, the tongue! Canon EOS Digital Rebel XTi SLR camera, 70-300mm zoom lens, ISO 200, 1/320th, f/8.0. Getting up early pays off!

You are invited to submit one to five of your best photographs to "Image of the Month," Virginia Wildlife Magazine, P.O. Box 11104, 4010 West Broad Street, Richmond, VA 23230-1104. Send original slides, super high-quality prints, or high-res jpeg, tiff, or raw files on a disk and include a self-addressed, stamped envelope or other shipping method for return. Also, please include any pertinent information regarding how and where you captured the image and what camera and settings you used, along with your phone number. We look forward to seeing and sharing your work with our readers.

Virginia Department of Game and Inland Fisheries
Outdoor Report
Managing and Conserving
Our Wildlife and Natural Resources

For a free email subscription, visit our website at www.HuntFishVA.com. Click on the Outdoor Report link and simply fill in the required information.



PHOTO TIPS

by Lynda Richardson

Below the Surface

One of the exciting new categories in this year's photography competition, *Below the Surface*, takes a look at what dwells in Virginia's lakes, rivers, creeks, vernal pools and bay. We urge contestants to be very creative, not only when choosing to photograph from above looking into water, but also when taking pictures from an underwater vantage point. Now you may be thinking, "What the heck! I'm not going to buy an expensive underwater housing for this!" But guess what? You don't have to. A trip to the local pet shop should do the trick.

I'm not a whiner about many things but when it comes to sticking any body parts into freezing cold water, particularly my head, I am *very* hesitant. That said, if I get an assignment where it looks like I might have to get wet and cold taking underwater photographs, in most cases I use a ten-gallon aquarium.

To take underwater photographs using an aquarium, you will need a camera with a wide- or short-range lens and a right angle finder if you can't turn your camera's back LCD upwards to view from above. Then, you need an aquarium that will fit your head. I use a 10-gallon because it is light, easy to maneuver, and I can comfortably stick my head and one arm into it. The reason you need to do this is so that you can look through your camera's viewfinder to see what you're shooting.

Once you've got your equipment ready, locate a wade-able waterway. Pick a location with clear water that has no current. Attach the right angle finder to your camera, place it in the bottom of the aquarium, surround it with towels so it won't move around, and you're ready to go. One thing to be mindful of is the fact that an aquarium wants to float. If you let it go, it will flip over and then your camera becomes an underwater camera, whether you like it or not! I sometimes take an assistant to help hold the aquarium as I work. It also helps to add a few rocks to weigh it down.



Some photographs are not meant to capture beauty but to make a statement about the environment. Here, I used the aquarium technique to photograph a creepy algae-covered riverbed in Texas, revealing its poor condition. © Lynda Richardson

Another thing about using an aquarium is that you have to be *super careful* about not breaking it! Be extremely cautious working around rocks or anything else that can bust the tank. Duct tape can be placed on the corners for extra protection, but just know that the last thing you want to do is break glass in a body of water or fall on it as you slip.

Always work in water no more than three feet deep. A pair of comfortable chest waders can give you more flexibility, allowing you to sit down and kneel in the water without getting cold and wet!

One of the super cool things about shooting under water is that you can create

above and below water images. Seeing exactly what the camera sees allows you to line up the water line easily. When you do this just remember that water magnifies things by about 25 percent, so you will sometimes get a strange juxtaposition of subject matter.

Be careful because you might find yourself addicted to this type of photography! I have the best time trying to sneak up on schools of minnows, capturing swaying fronds of eel grass, or creating strange abstracts when turning the camera upwards to the surface. Photographing *Below the Surface* can be an exciting and fun challenge while opening up your eyes to the underwater world. Good luck and be safe!



On the Water

by Tom Guess

Pea Soup

It was a beautiful spring morning and I was leaving Milford Haven in Mathews County on my way to Smith Point Light at the northern end of the Chesapeake Bay. As I headed through the Narrows I picked up that smell in the air that made me know summer was at Virginia's doorstep. The gulls and the other birds seemed excited as they rode the thermals and air currents in my boat's wake.

As I rounded Gwynn's Island to make the turn out of Milford Haven and into the Piankatank River, I could see out into the bay what appeared to be a mountain of clouds on the water but clear skies above. Sea fog! According to the National Weather Service, advection fog is the result of condensation. However, the condensation is caused not by a reduction in surface temperature but, rather, by the horizontal movement of warm moist air over a cold surface. Sea fogs are always advection fogs because the oceans don't radiate heat in the same way as land; so, they never cool sufficiently to produce radiation fog. Fog forms at sea when warm air associated with a warm current drifts over a cold current and condensation takes place.

While approaching the wall of clouds, I made sure my navigation lights were on, my radar was tuned correctly, and my chart plotter was set up with my route to Smith Point Light. I also verified my heading on my compass and decided that, before entering the fog bank, I would take a quick fix of my position and plot it on the chart with two or three dead reckoning, or DR, positions. "Dead reckoning" means to manually estimate one's position based upon a previously determined position, or fix, and advance or plot that position on a chart based upon a known or estimated speed over time and course.

The most important reason to plot a dead reckoning course: It gives you a way to determine where you are if all of your electronics fail.

Upon entering the fog bank, which was as thick as pea soup, I became keenly aware of my surroundings in the eerie quiet and paid strict attention to navigating and looking out



for other boats, both visually and by radar. The interesting thing about his particular fog bank is that it reminded me of flying in the clouds. When I looked straight up I could see clear skies and the sun, but visibility on the surface was poor, at best, and compounded by the sun shining into the fog so brightly.

The trip was rather uneventful, but thinking of it reminded me of the importance of learning more about navigation. Consider taking an advanced course offered by the U.S. Coast Guard Auxiliary or U.S. Power Squadrons. These courses go into much more depth than a basic boating safety course and will help you hone your boating and navigation skills. You're never too old to learn!

Until next time: Be Responsible, Be Safe, and Have Fun!

Tom Guess, U.S. Coast Guard (Ret), serves as the state boating law administrator at the DGIF.

Clarification to April Column

It read: "This July 1 all operators of Personal Watercraft (jet ski) 50 years of age or younger and all operators of motor boats with motors of 10 hp or greater must meet that requirement as well as carry their certificate or card onboard when operating such watercraft."

It should read: "This July 1 all operators of Personal Watercraft (jet ski) 50 years of age or younger and all operators **20 years of age or younger** of motor boats with motors of 10 hp or greater must meet that requirement as well as carry their certificate or card onboard when operating such watercraft."



Dining In

by Ken and Maria Perrotte

Grilled Cobia

There's an argument to be made as to which species of fish should be crowned the king of the Chesapeake. No doubt the striped bass, by virtue of its sheer economic importance and recent designation as Virginia's official saltwater fish, merits strong consideration. Yes, stripers, or rockfish as commonly and locally known, rule the spring and early winter. But come early June, the lower bay recognizes one monarch: the cobia.

With rapid growth rates, an aggressive demeanor, and strength that challenges the toughest fishing tackle, cobia capture the angler's imagination. It doesn't hurt that they are delicious, as well, and like a trophy rockfish, a keeper cobia will yield several meals of succulent steaks. The thing about cobia, though, is that it doesn't freeze the best. It will keep for a couple of months in a well-sealed (preferably vacuum-sealed) package, but like any fish, it's best eaten fresh.

Newport News resident Wes Blow is one of Virginia's cobia masters. Blow targets the big fish, releasing far more than he ever keeps for the dinner table. But he has kept enough to know what he likes and the simple recipe below is one of his favorites. Blow cautions anyone filleting a cobia to remove as much of the strong red meat along the lateral sides of the fish as possible.

Another simple grill recipe calls for a flavorful smear of dill butter. The side salad dishes featuring a mix of fresh, roasted and grilled vegetables pair magnificently with these fish fillets.



Cobia – Wes Blow Style

2 pounds cobia fillets
1/4 cup olive oil
1/4 cup lemon juice
1 teaspoon dry mustard
1 clove garlic, minced
1/2 teaspoon salt
1/4 teaspoon pepper

Cut fillets into serving-size pieces of about an inch thick and 6 to 8 ounces each and place in large bowl. Mix together olive oil, lemon juice, and spices. Pour mixture over fish and marinate for just 5 min.; any longer and the lemon juice will start cooking the fish ceviche-style. Remove from marinade and grill for about 8 min., depending on fillet thickness. Turn several times, basting with the marinade as desired. Don't overcook! Serves 4.

Grilled Cobia with Dill Butter

2 pounds cobia fillets
Olive oil
Sea salt and fresh ground coarse pepper
2 tablespoons unsalted butter, softened
2 teaspoons chopped fresh dill

1/2 teaspoon lemon juice
1/4 teaspoon salt (or less, to taste)

Cut fillets into 6- to 8-ounce, inch-thick serving pieces. Combine butter, dill, and lemon juice. Brush fish with olive oil and sprinkle with a little salt and pepper. Place on grill and put a small dab—about 1/4 tsp.—of dill butter on the top of the fillet. Smear over the fillet when the butter starts to melt. Turn several times, each time topping with the dill butter. Don't overcook! When fish is removed from grill, top with additional dollop of dill butter to serve. Serves four.

Grilled Zucchini

Wash zucchini well and chop off the ends. If more than six inches long, cut zucchini in half. You want to end up with slices that are about 2 1/2 to 5 inches long. Slice zucchini lengthwise into long slices about 1/4-inch thick. If the skin is tough, you can trim most of it away. Brush lightly with olive oil and add salt and pepper to taste. Grill, turning once, until soft throughout.

Salad

This salad is a bit of a variation of a Mediterranean Caprese-style salad with the nice, ripe tomatoes and mozzarella, but we adapted it based on availability of vegetables and some deli-roasted favorites at the supermarket.

Lettuce

Fresh tomato wedges
Sliced cucumbers
Roasted and/or sun dried tomatoes
Asparagus (canned or fresh steamed)
Olives (any favorite Mediterranean variety)
Fresh mozzarella, sliced

Arrange salad ingredients and drizzle with Lemon Vinaigrette.

Lemon Vinaigrette Dressing

4 tablespoons olive oil
1 tablespoon lemon juice
1 teaspoon red wine vinegar
1/4 teaspoon garlic powder
1/4 teaspoon black pepper
1/2 teaspoon Herbs de Provence
Dash of salt

Put all ingredients in a jar and shake to mix.

A refreshing, crisp white wine from a Virginia vineyard superbly complements this meal, but look for one that isn't oak aged or, at most, minimally so. We paired it with a 2009 El Molino Torrontes wine from Argentina. Torrontes is Argentina's premier white wine grape, and El Molino's vintage seemed to have a remarkable blend of Riesling, Pinot Grigio, and sauvignon blanc flavors and nuances.



Northern Pinesnake Watch

You can help conserve and protect the Northern pinesnake! The Virginia Department of Game and Inland Fisheries would like your assistance in reporting current, past, live or dead pinesnake observations. If you have seen a pinesnake or know of a past observation in the state, please fill out the form below and send it to the address provided. Your personal information will remain confidential. Thank you for helping us protect a natural rarity! Please include the following information in your observation:

Date observed: _____

Observation location (be as specific as possible): _____

County or City/Town: _____

Snake activity: moving resting dead other (explain) _____

Additional comments: _____

The below information will be used for confirmation purposes **only**.

Name: _____

Address: _____

City/Town: _____ State: _____ Zip Code: _____

Daytime phone number: _____

Additional information, such as photographs and/or location maps, is welcome and should be included when possible. Send the completed form to Mike Pinder, Virginia Department of Game and Inland Fisheries, 2206 South Main Street, Suite C, Blacksburg, VA 24060.

You can also respond via our Web link, at:

[www.dgf.virginia.gov/pinesnake](http://www.dgif.virginia.gov/pinesnake)



Looking for Something?

Did you read something in the magazine a few months back... or a few years back... that you want to locate quickly? Or perhaps you remember a particularly vivid photograph from one of our features that you'd like to revisit.

The editorial staff is pleased to announce that a searchable database of this magazine spanning the years 2005 through the present has been posted onto our website. Go to: www.dgf.virginia.gov/virginia-wildlife and click on "Contents Database" to access the file. You can search by author name, title, year, keyword, and subject matter.

While online, you will see that many of our most popular features have been posted there and may be downloaded as PDF files. And don't forget that most back issues of *Virginia Wildlife* are available at the cover price by calling the magazine office at (804) 367-0486.



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Outdoor Education Program presents

Mother & Daughter *Outdoors*

July 22–24, 2011



This workshop is designed primarily for females 9 years of age and above to learn the outdoor skills usually associated with hunting and fishing, but useful in a variety of outdoor pursuits.

All courses focus on outdoor skills using hands-on instruction. Outdoor skills courses include outdoor cooking, fly-fishing, wild edibles, introduction to firearms, skeet shooting, archery, wilderness survival, map and compass, animal tracking, and more.

This workshop is for you if:

- You would like to get your family involved in outdoor activities and need a place to start.
- You have never tried outdoor activities but have hoped for an opportunity to learn.
- You are a beginner who hopes to improve your skills.
- You are looking for the camaraderie of like-minded individuals.

This year's event will be held at Holiday Lake 4-H Educational Center near Appomattox. Registration is \$90 per person, which includes meals, lodging, course instruction, use of equipment, and evening events. Registration deadline is June 25, 2011 at 5 p.m.

For more information, visit our website [www.dgf.virginia.gov/events](http://www.dgif.virginia.gov/events) with links to registration forms for downloading or call the Outdoor Education Office at (804) 367-0656 or (804) 367-7800.